

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V**

DATE: APR 30 1990

SUBJECT: ON-SCENE COORDINATOR'S REPORT - Removal Action at Krejci Dump, Boston Township, Ohio (Site ID #6T)

FROM: Robert J. Bowden, Chief
Emergency & Enforcement Response Branch

TO: Hans J. Crump-Wiesner, Acting Director
Emergency Response Division, OS-210

THRU: Norman R. Niedergang, Acting Associate Division Director
Office of Superfund



Attached please find the On-Scene Coordinator's Report for the removal action at the Krejci Dump site in Boston Township, Ohio. This site is part of the Cuyahoga Valley National Recreation Area, operated by the National Park Service, U.S. Department of the Interior (U.S. DOI). The report follows the format outlined in the National Contingency Plan. This removal action was initiated on June 9, 1987, and was completed on October 31, 1988.

The site posed an imminent threat to human health and the environment, and met the criteria established in the Removal Section of the National Contingency Plan (40 CFR 300.65). A removal action was taken to alleviate the threat of release of hazardous substances including acids, bases, phenols, heavy metals, PCB's and other identified contaminants to the environment.

Cost under control of the On-Scene Coordinator (OSC) totaled \$1,895,650.00 of which \$1,509,650.00 was for the Emergency Response Cleanup Services (ERCS) Contractor. The completed project cost is approximately \$1,730,059.17. The OSC was Edward C. Burk, Jr.

Any indication in this OSC report of specific cost incurred at the site is only an approximation, and is subject to audit and final definitization. The OSC report is not a final reconciliation of the cost associated with a particular site.

Portions of the OSC report appendices may contain confidential business or enforcement sensitive information and must be reviewed by the Office of Regional Counsel prior to release to the public.

This site is not listed on the National Priorities List.

Attachment

cc: K. Schultz, OEPA, w/OSC Report
S. Janowiak, Hqs, U.S. EPA, OS-210, w/OSC Report

bcc: T. Jacobs, 5CS-TUB3, w/OSC Report
T. Lesser, 5PA-14, w/OSC Report
O. Warnsley, RP/CRU, 5HS-12, w/OSC Report
R. Freeman, 5RA, w/OSC Report
R. Bowden/P. Schafer, 5HS-12, w/OSC Report
EERB Site File, 5HS-12, W/OSC Report
R. Powers/R. Buckley, 5HSG , w/OSC Report
E. Burk, 5HSGI, w/OSC Report
W. Muno, 5HR, w/OSC Report
T. Connell, 5SPT, w/OSC Report

ON-SCENE COORDINATOR'S REPORT

CERCLA REMOVAL ACTION

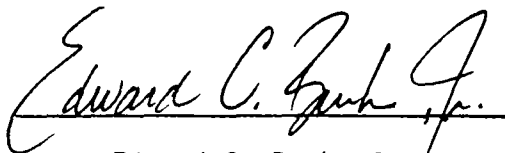
KREJCI DUMP

BOSTON TOWNSHIP, OHIO

DELIVERY ORDER NO. 7360-05-015

SITE ID #6T

REMOVAL DATES: 6-9-87 TO 10-31-88

A handwritten signature in cursive script, reading "Edward C. Burk, Jr.", is written over a horizontal line.

Edward C. Burk, Jr.
On-Scene Coordinator
Response Section I
Emergency and Enforcement Response Branch
Office of Superfund
Waste Management Division
Region V
United States Environmental Protection Agency

EXECUTIVE SUMMARY

On June 9, 1987, the United States Environmental Protection Agency (U.S. EPA) initiated Phase I of the removal action at the Krejci Dump site in Boston Township, Ohio. The action was taken to mitigate threats to public health posed by the presence of polychlorinated biphenols (PCBs), acids, bases, phenols and heavy metals. These materials posed threats through direct contact, fire and explosion and potential contamination of surface and groundwaters. This site is part of the Cuyahoga Valley National Recreation Area operated by the National Park Service, U.S. Department of the Interior (U.S. DOI).

The primary objective of Phase I was to sample drums and soils, identify contaminants, segregate and stage the hazardous materials, and to dewater and treat an on-site lagoon. Phase I work included stabilization of both the east and west portions of the Krejci Dump site. Work was halted on November 25, 1987, due to weather conditions. Work was resumed on September 6, 1988, and continued until October 31, 1988, when the Department of Interior, National Park Service took over operation of the site.

During U.S. EPA Phase I activities, approximately 200,000 gallons of contaminated oils, solvents and other hazardous liquids, 2,500 cubic yards of lagoon sludge, 145 compressed gas cylinders, 24 paint vats, 200 cubic yards of contaminated, crushed drums, 760 drums of contaminated solids and 300 cubic yards of contaminated soil and wood were characterized and staged. No waste material was shipped off-site for treatment/disposal during this phase.

The U.S. EPA's involvement in the removal action was completed on October 31, 1988, at an estimated cost of \$1,730,059.17, which includes \$1,396,901.85, for the Emergency Response Cleanup Services (ERCS) contractor cost. The On-Scene Coordinator (OSC) was Edward C. Burk, Jr.

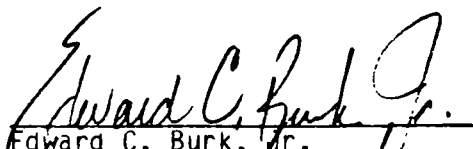

Edward C. Burk, Jr.
On-Scene Coordinator

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BOSTON TOWNSHIP, OHIO

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BOSTON TOWNSHIP, OHIO

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- CC. WASTE PROFILE SHEETS
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- FF. BOWSER-MORNER REPORT
- GG. N.P.S. BACKGROUND INFORMATION
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Note: Portions of these appendices may contain confidential business information and should be reviewed by the Office of Regional Counsel prior to release to the public.

1.0 SUMMARY OF EVENTS

1.1 Location

Krejci Dump (Krejci) site is located in Boston Township, Summit County, Ohio. The site is on Hines Hill Road and is approximately 2 miles west of Ohio State Route 8 (Figure 1). The 150-acre site is owned by the U.S. Department of the Interior, National Park Service, and is within the boundaries of the Cuyahoga Valley National Recreation Area (CVNRA).

The Krejci site is located at the top of the eastern edge of the Cuyahoga River valley. The site is underlain by lacustrine clays, thick clayey till, and Cuyahoga Formation shale bedrock. Domestic groundwater yields are minimal (<10 gpm) and are generally of poor quality.

The site is divided into east and west sections by U.S. Interstate 271 (Figure 2). The eastern section of the site is bordered to the north by steep valley slopes, an open field and a natural gas well (#32025-10-4); to the south by a vacant lot; and to the east and west by steep valley slopes.

The western section of the site is bordered to the southwest by Hines Hill Road, and to the southeast by Interstate 271. Steep valley slopes and an overgrown field border the west section to the north and east, respectively.

Surface water run-off from the east section drains both west, to an unnamed tributary of the Cuyahoga River, and east, to an unnamed tributary of Brandywine Creek. Run-off from the west section flows to the same unnamed tributary of Brandywine Creek (Figure 2). Brandywine Creek is a Cuyahoga River tributary.

The site is surrounded by mature second-growth oak forests. In addition, much of the site is overgrown with dense brush. The nearest private residence is approximately 200 feet to the southeast. Population within a 1-mile radius of the site is estimated to be 467. Residences in the immediate vicinity do not use groundwater for potable supplies.

Of the approximate 150 acres which comprise the site, an estimated 50 acres contained waste. The east and west sections are posted with "No Trespassing" and "Hazardous Waste" signs.

1.2 Initial Situation

The Krejci Dump site was operated by owner John Krejci as a salvage yard from the 1940's until 1955. The northeast portion of the west section operated as an unlicensed sanitary landfill. In the late 1960's, the Summit County Health Department cited the landfill operators for inadequate covering of the refuse and closed the site.

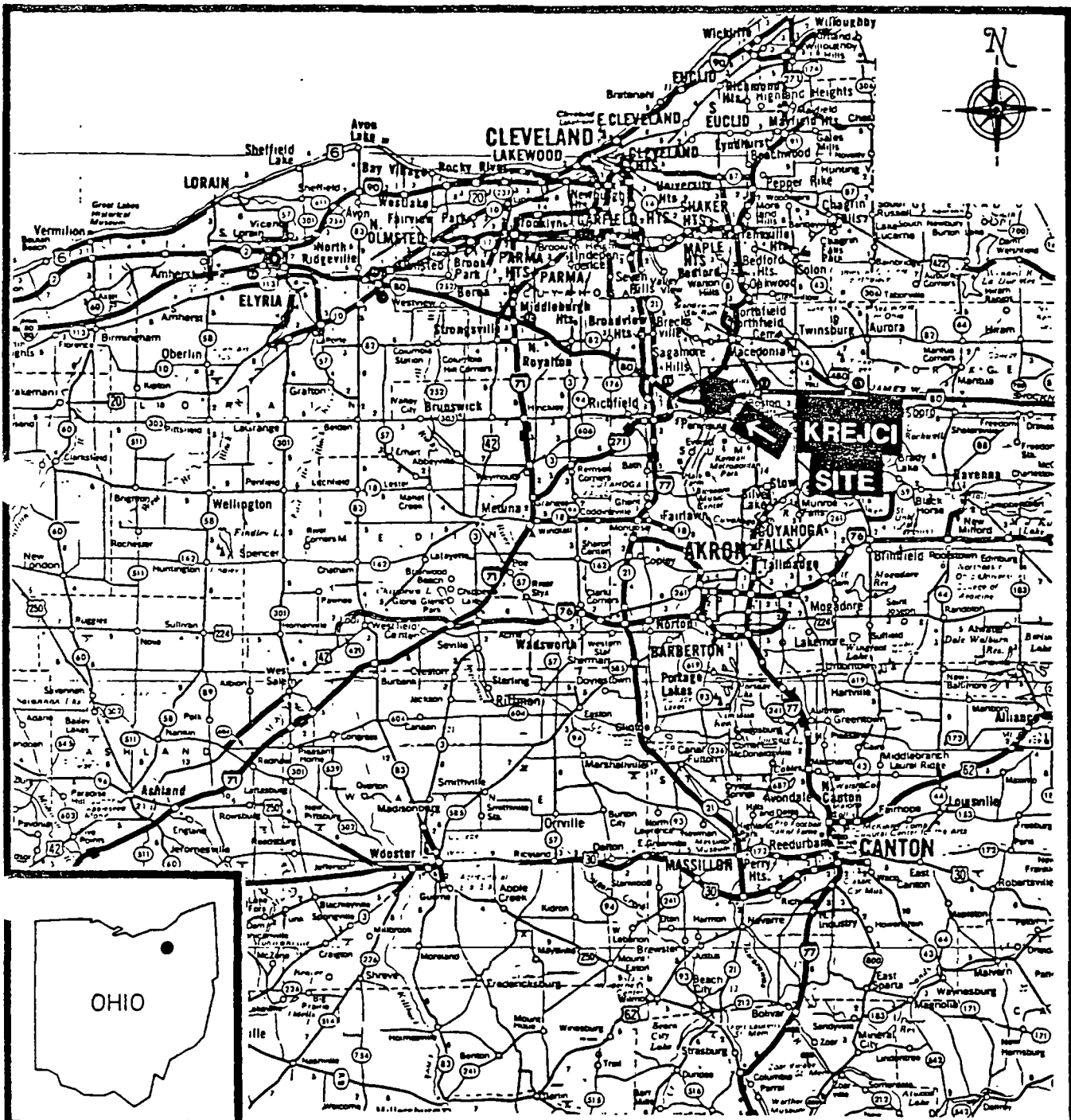


FIGURE 1
SITE LOCATION MAP
KREJCI DUMP SITE
BOSTON TOWNSHIP, OHIO

SCALE 1 INCH=8 MILES



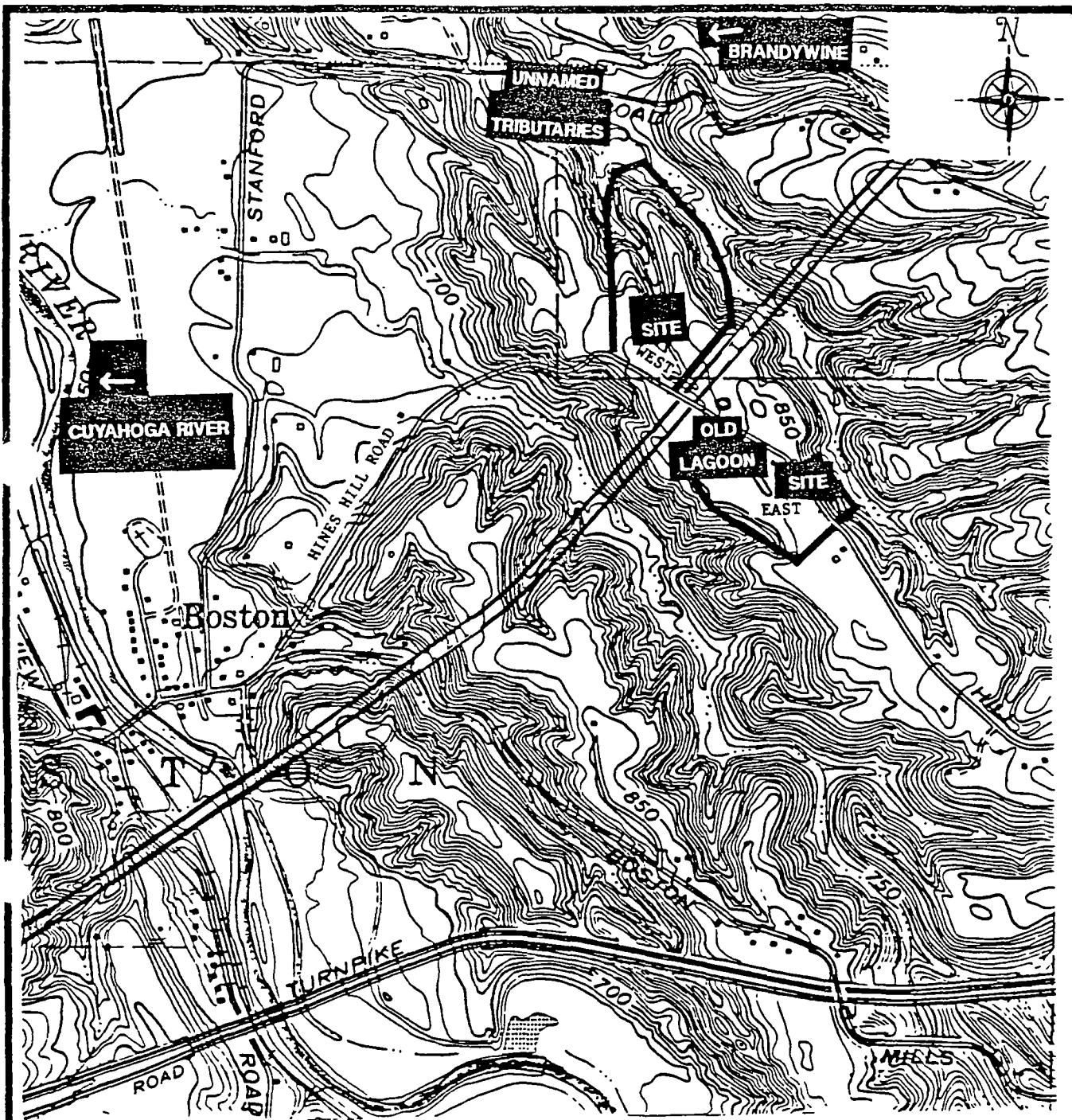


FIGURE 2
 DETAILED SITE LOCATION MAP
 KREJCI DUMP SITE
 BOSTON TOWNSHIP, OHIO

1 INCH=0.4 MILES



From 1973 through 1979, Mr. Krejci attempted to obtain a solid waste disposal permit but was denied by the Ohio Environmental Protection Agency (OEPA). One of the applications contained a geologic report of the west section which indicated at least 19 feet of unidentified fill in this area. Because Ohio Administrative Code 3745-27-03 specifically exempts salvage yards from regulation under the State Solid Waste Regulations, there had been few documented inspections of the Krejci Dump site by state and local government officials.

In the late 1970's, the National Park Service (NPS) initiated condemnation proceedings against Mr. Krejci for misuse of the CVNRA. Subsequently, a consent judgment was entered which allowed Mr. Krejci to operate a salvage yard until October 1, 1985. At this time the NPS purchased the Krejci property and granted monthly exemptions until September 30, 1986.

On May 4, 1986, an incident report was filed by the NPS when a salvage yard worker developed a rash on his arm after coming in contact with substances at the site. Consequently, the NPS posted warning signs, restricted access to the site, and, with OEPA's assistance, conducted an investigation of the site. At this time, NPS personnel observed 120 to 130 55-gallon drums containing oil and paint wastes, and marked the locations of drummed wastes with blue flagging.

On October 23, 1986, a site assessment of the Krejci site was completed by Technical Assistance Team (TAT) members Elise Allen and Tami Renkowski. The U.S. EPA On-Scene Coordinator (OSC) Ed Burk, and CVNRA representatives, Jack Galvin and Garree Williamson, accompanied them. During the site assessment, they noted the following items:

- o approximately 650 drums on the west section that contained paint wastes, solvents, industrial sludges, lab packs, solid residues, 2,4-D herbicides, oils, and greases;
- o approximately 1,200 drums on the east section containing many of the materials described above; oil-stained soils;
- o oil sheens on surface waters;
- o many drums that were bulged or in disrepair; and
- o several dozen compressed gas cylinders.

In addition, analytical results from soil samples collected by the TAT indicated the presence of heavy metals, phenols and PCBs.

1.2.1 State and Local Efforts to Cleanup Site

Because the site is within a federal facility, the state and local agencies have not been heavily involved with remediation activities. Initially, the NPS contacted the OEPA for assistance in site characterization. A preliminary site visit was conducted by OEPA personnel, however, no formal report was generated. This prompted the NPS to contact the U.S. EPA for assistance.

1.3 Threat to Public Health and the Environment

Based on the observations of October 23, 1986, during the site assessment and substances identified on the site, including PCB's, acids, and phenols, the Krejci Dump site presented an immediate and significant risk of harm to human life and health and to the environment. Overall, the Federal emergency actions described in this outline did safely and effectively reduce or eliminate the imminent threats to human health and the environment posed by the conditions at Krejci.

As outlined in Section 300.65 (b)(2) of the National Contingency Plan, the threats posed by the site included the following:

- 1) Actual or potential exposure to hazardous substances or pollutants or contaminants by nearby populations, animals, or the food chain;
- 2) Actual or potential contamination of drinking water supplies or sensitive ecosystems;
- 3) Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers that may pose a threat of release; and,
- 4) High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate.

The presence of toxic chemicals posed a threat via direct contact with humans. The unsecured and deteriorating drums posed a potential threat to the environment. Vapors from the drums, vats and lagoon would continue to have released directly into the atmosphere. Many of the substances identified are toxic via ingestion, skin contact and inhalation. Migration of any of these compounds also posed a threat of surface and groundwater contamination. Conditions at Krejci also posed threats to wildlife in the immediate vicinity. Heavy metals and PCB's are bioaccumulative and present a threat to organisms in the food chain.

1.4 Federal Cleanup Action, Phase I - East Area

On June 5, 1987, the Regional Administrator, Region V, approved the expenditure of up to \$1,117,950, of which \$909,650 was for ERCS costs under authority of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as amended by the Superfund Amendments and Reauthorization Act (SARA) for the removal action at the Krejci Dump site. In addition, ceiling increases were approved by the Director, Waste Management Division, on September 28, 1987, and July 27, 1988, increasing the project ceiling \$1,895,650, of which \$1,509,650 was for ERCS costs. On June 1, 1988, the Director, Waste Management Division, approved a 1-year time exemption to allow the continuation of the removal activities at Krejci. The cleanup was conducted by MAECORP, the Emergency Response Cleanup Services (ERCS) contractor.

For ease of discussion, each of the following sections corresponds to the major phases of the cleanup. The removal action was planned for two phases, phase I stabilization and phase II disposal. The phase I activities are divided into the east and west areas. A summary of the activities is presented in Table 1.

1.4.1 Preliminary Arrangements - Safety and Support Facilities

On June 9, 1987, OSC Ed Burk met with TAT members Steve Tuckerman and Jerry Klein, and with MAECORP personnel Ken Eldridge and Paul Carstens to discuss scheduled removal activities and approach. The decontamination and support zones were established in the east section with break and office trailers being set up in the support zone. A decontamination trailer was positioned at the boundary between the two zones. At the onset of the east section removal action, it was necessary to remove scrap and vegetation from access routes to get to the waste. Maintenance of these routes was required throughout the removal, however, at the request of the NPS, clearing of vegetation was kept to a minimum. A photoionization detector (HNU), organic vapor analyzer (OVA), combustible gas indicator (CGI) and radiation meter were used for daily ambient air monitoring and for monitoring during waste handling.

A security service was employed to patrol the site 24 hours per day during periods of site inactivity, and during non-working hours while the site was in operation. A security consultant was brought to the site for advice in securing the remote sections of the site. Based upon his recommendations, the site was secured with fencing and posted with signs.

1.4.2 Stream and Site Run-off Sampling

Stream sediment and water samples were collected from drainage areas surrounding both the east and west portions of the site. Samples collected were analyzed for metals and priority pollutants. Results indicated no significant, if any, impact due

TABLE 1 ACTIVITY LOG

EPA REGION V
KREJCI DUMP
JUNE 1987

[illegible]

EPA REGION V
KREJCI DUMP
JULY 1987

[illegible]

TABLE 1 ● (cont.)

	DATE	ACTIVITY
1	10-1-68	...
2	10-2-68	...
3	10-3-68	...
4	10-4-68	...
5	10-5-68	...
6	10-6-68	...
7	10-7-68	...
8	10-8-68	...
9	10-9-68	...
10	10-10-68	...
11	10-11-68	...
12	10-12-68	...
13	10-13-68	...
14	10-14-68	...
15	10-15-68	...
16	10-16-68	...
17	10-17-68	...
18	10-18-68	...
19	10-19-68	...
20	10-20-68	...
21	10-21-68	...
22	10-22-68	...
23	10-23-68	...
24	10-24-68	...
25	10-25-68	...
26	10-26-68	...
27	10-27-68	...
28	10-28-68	...
29	10-29-68	...
30	10-30-68	...
31	10-31-68	...

Task	Activity	Activity
MOB HEAVY EQUIPMENT		
MOB EQUIP OPERATOR/CLEAN-TECH		
REMOVED DRUMS & CABLE FROM RD		
ERECT FENCE:SNOW(-);CHAIN(x)		
CLEAR BRUSH		
SURVEY SITE & DEVELOP SITE MAP		
DEMOB		
MOB		
CONSOLIDATE SCRAP		
CONSOLIDATE TIRES		
CONSOLIDATE EMPTY DRUMS		
CRUSH "CLEAN" DRUMS		
BUILD DECON PAD		
OVERPACK & OPEN DRUMS		
CONSOLIDATE CONTAMINATED DRUMS		
CRUSH CONTAMINATED EMPTY DRUMS		
PREPARE SAMPLING PLAN		
BUILD MOBILE DECON PAD		
SAMPLE WASTE DRUMS		
PERFORM ON-SITE LAB ANALYSIS		
PREPARE FINAL STAGING AREA		
STAGE MATERIALS NORTH SITE		
CLOSE OVERPACKS		
MOVE WASTE TO FINAL STAGING		
COLLECT SOIL SAMPLES		
REPACK OVERPACKS		
STAGE EMPTY CYLINDERS		
STAGE FULL CYLINDERS		
STAGE CONTAMINATED WOOD		
STAGE DRUMMED CONTAMINATED SOI		
TREAT & DISCHARGE DECON WATER		
PLACE SOILS/WASTES IN DRUMS		

TABLE 1 (cont.)

UPDATED
9/29/87

EPA REGION V
KREJCI DUMP
SEPTEMBER 1987

[illegible]

EPA REGION V
KREJCI DUMP
OCTOBER 1987

[illegible]

TABLE 1 (cont.)

UPDATED
1/22/88

EPA REGION V
KREJCI DUMP
NOVEMBER 1987

DATE ACTIVITY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
DEMOB									*																						
MOB																															
CONSOLIDATE SCRAP																															
CONSOLIDATE TIRES																															
CONSOLIDATE EMPTY DRUMS																															
CRUSH "CLEAN" DRUMS																															
BUILD DECON PAD																															
OVERPACK & OPEN DRUMS																															
CONSOLIDATE CONTAMINATED DRUMS																															
CRUSH CONTAMINATED EMPTY DRUMS																															
PREPARE SAMPLING PLAN																															
BUILD MOBILE DECON PAD																															
SAMPLE WASTE DRUMS																															
PREPARE FINAL STAGING AREA																															
STAGE MATERIALS NORTH SITE																															
CLOSE OVERPACKS																															
MOVE WASTE TO FINAL STAGING																															
COLLECT SOIL SAMPLES																															
REPACK OVERPACKS																															
STAGE EMPTY CYLINDERS																															
STAGE FULL CYLINDERS																															
PLACE SOILS/WASTE INTO DRUMS																															
STAGE CONTAMINATED WOOD																															
STAGE DRUMMED CONTAMINATED SOIL																															
TREAT AND DISCHARGE WATER																															
FENCE FINAL STAGING AREA																															
BULK SOIL AND STAGE																															
OVERPACK FULL HARSAN DRUMS																															
TRANSPORT ALL SAMPLES FOR WINT																															
FINALIZE SITE FOR TOTAL DEMOB																															

* - Partial Demob

1.

1.

[illegible]

TABLE 1 (cont.)

UPDATED
10/31/88

EPA REGION V
KREJCI DUMP
OCT 1988

DATE ACTIVITY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
SITE SECURITY																															
SITE MOBILIZATION																															
MOBILIZE CREW																															
DEMobilize CREW																															
SUPPORT ZONE SET-UP																															
CONSTRUCT DECON LINE																															
ERECT FENCE:SNOW(-);CHAIN(x)																															
CLEAR BRUSH																															
PREPARE FINAL STAGING AREA																															
OVERPACK & OPEN DRUMS																															
EXCAVATE/DRUM CONTAMINATED SOIL																															
MOVE OVERPACKS TO FINAL STAGING																															
BULK SOIL AND STAGE																															
PREPARE SAMPLING PLAN																															
SAMPLE WASTE DRUMS																															
CLOSE OVERPACKS																															
COLLECT SOIL SAMPLES																															
STAGE EMPTY CYLINDERS																															
STAGE FULL CYLINDERS																															
FENCE FINAL STAGING AREA																															
TREAT & DISCHARGE WATER																															
STAGE VISIBLY CONTAMINATED DRUMS																															
CONSOLIDATE RUBBER DRUMS																															
CONSOLIDATE SMALL CONTAINERS																															
CRUSH VISIBLY CONTAMINATED DRUMS																															

FIX

MAP

to run-off from the Krejci site. Samples collected near the I-271 highway did show trace amounts of pesticides, assumed to be a result of roadside spraying.

1.4.3 Segregating, Overpacking, Sampling, and Staging Drums

Empty drums were collected and crushed with a hydraulic drum crusher. The crushed drums were then segregated into contaminated and non-contaminated piles. To obtain samples, drums were opened remotely with a drum punch attached to a 215 Track Hoe or grapppler. Deteriorating drums containing material were overpacked into 85-gallon drums. Drums were handled utilizing the 215 track hoe equipped with a grapppler attachment. MAECORP provided a mobil on-site laboratory to conduct compatibility analysis. Upon receipt of the sample compatibility results, drums were segregated into groups and staged accordingly on pallets. Refer to Figure 3 for a detailed outline of the east side staging area.

1.4.4 Sampling, Analysis and Staging of Contaminated Soils

The soil sampling program was designed to determine the presence of hazardous chemicals in visually contaminated soils. Samples collected were to be analyzed by MAECORP's mobile lab; however, problems with protocol and sample Quality Assurance/Quality Control (QA/QC) resulted in having to send the samples to an outside lab for analysis. Wadsworth Alert labs analyzed the soil samples for pesticides and herbicides. Along with the compatibility results, this information was used to segregate waste streams. Some contaminated soils were loaded into 17-H, 55-gallon drums using a track hoe. Other contaminated soils were located in on-site temporary mini-cells. Each mini-cell was bermed and lined with visqueen. The mini-cell was then covered with Mirafor, a reinforced plastic membrane.

1.4.5 Staging Contaminated Wood and Gas Cylinders

Approximately 2,000 cubic yards of contaminated wood were collected from throughout the site and transported to the east section staging area in a dump truck. There, the contaminated wood was stacked into piles.

The U.S. EPA employed Mel Vasi of Cylinder Recon of New Jersey, as a consultant to assist in the identification of the 145 compressed gas cylinders discovered on the site, and to recommend disposal options for these cylinders.

Cylinders were segregated and moved to a remote location using a 215 track hoe equipped with a nylon sling and a blast shield. The cylinders were divided into the following groups: unknown, empty and those partially full. The empty cylinders were decontaminated and stacked for later disposal. Three full, unknown cylinders were staged in a four-sided earthen bunker in a remote part of the staging area. Other partially to totally full cylinders were

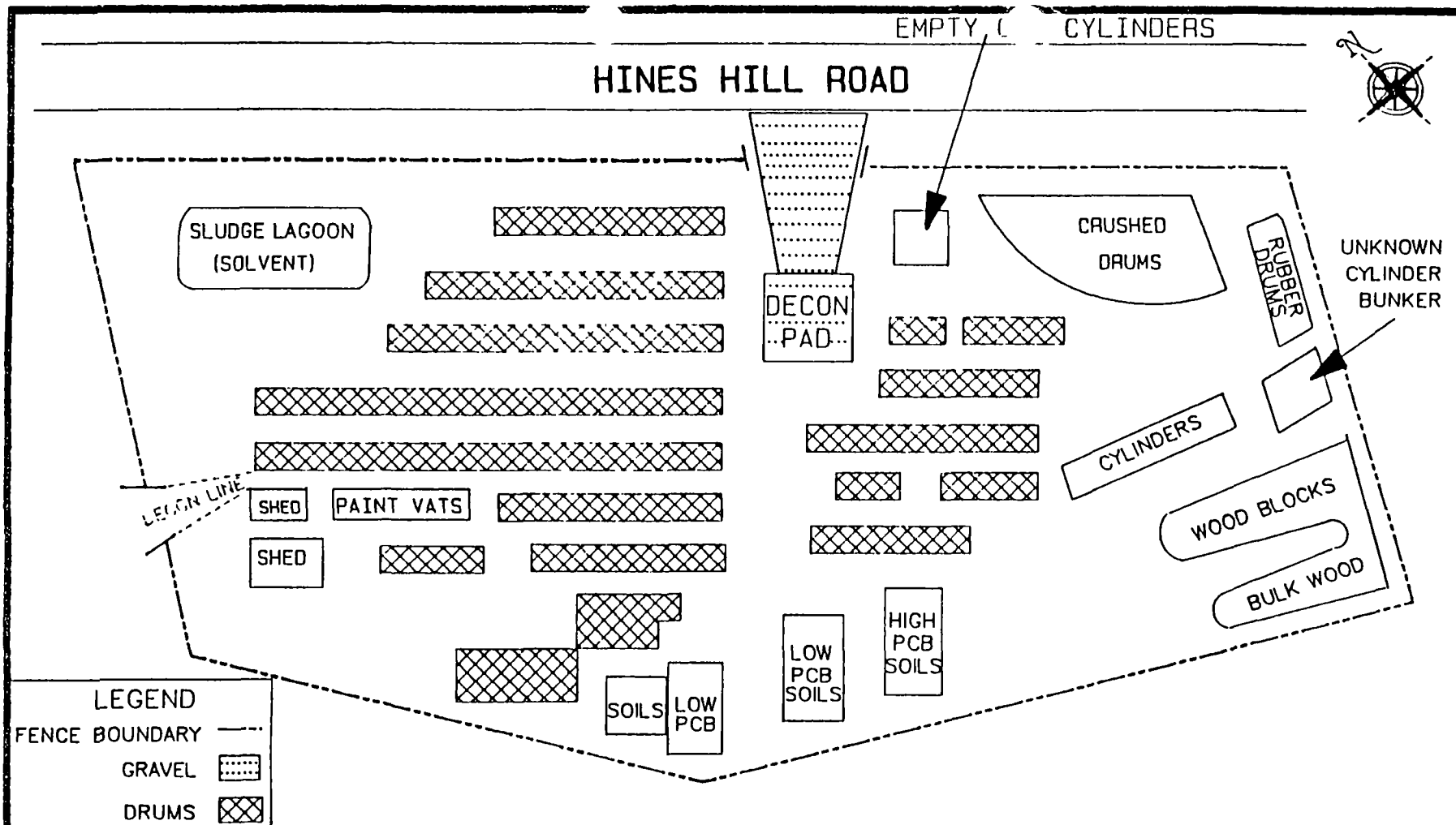


FIGURE 3
EAST SECTION STAGING AREA
KREJCI DUMP SITE
BOSTON TOWNSHIP, OHIO

NOT TO SCALE



transported to a remote section of the staging area and placed against a 45° earthen embankment.

1.4.6 Tire Disposal

Tire disposal was arranged and paid for by the NPS. All tires scattered throughout the site were collected and loaded by the ERCS contractor; however, transportation and disposal was financed by the NPS. The non-contaminated tires were transported to a local facility for proper handling.

1.4.7 Dewatering, Solidification, Staging and Treatment of Lagoon

Approximately 6,500 gallons of phenol and PCB contaminated water were pumped from the lagoon and stored in a polypropylene tank located in the decontamination area. The lagoon sludge was then solidified with sawdust. Once solidified, 1,900 cubic yards of the sludge were removed from the lagoon and loaded into dump trucks, transported across Hines Hill Road, through the site and into a cell in the staging area. The cell was lined with visqueen and diked.

After the solidified sludge was removed, the lagoon dike was breached and graded for existing contour to prevent the accumulation of water. Lagoon water and decontamination water were treated on site utilizing two activated carbon cells (constructed from carbon, pea gravel, sand, PVC pipe and nylon filter).

After treatment, the water was sampled and analyzed for PCBs and phenols. Analytical results revealed contaminant concentrations below detection limits, and the water was discharged on site. The sediment from the water holding tank was placed in the lagoon sludge cell.

The site was stabilized, both the east and west portions, and work was halted on November 25, 1987. Weather conditions (e.g. freezing snow) made working conditions unsafe. Subsequent to work stoppage, arrangements were made to continue, pending financial and weather conditions.

1.5 Phase I Continuation - West Area

On September 6, 1988, removal activities were resumed at the Krejci Dump site. During this phase, the majority of the work was conducted on the west section. Once again, MAECORP, Inc. was the ERCS contractor, and work conducted closely paralleled what was conducted on the east section.

1.5.1 Preliminary Arrangements-Safety and Support Facilities

On September 6, 1988, OSC Ed Burk met with representatives from TAT and MAECORP to discuss scheduled removal activities and approach. The decontamination and support zones were established

in the west section. Decontamination, office and break trailers were positioned in the support zone.

1.5.2 Segregating, Overpacking, Sampling and Staging Drums

Some of the drum samples had to be recollected because those collected the previous year had frozen and broken. A total of 1,230 drums in the west section were sampled and all samples were sent to Wadsworth Labs for compatibility analysis. Approximately 759 55-gallon drums and 24 small rubber drums remain unsampled. Based on the compatibility results, the drums were staged according to contents and disposal options were considered. Drums that were leaking or in poor shape were overpacked prior to staging. Drum handling was conducted in the same manner as drums were handled on the east section.

1.5.3 Sampling, Analysis, and Staging of Contaminated Soils

Visually contaminated soils were sampled and characterized via compatibility analysis. These soils were either placed in 17-H 55-gallon drums or bulked and placed into mini cells like the storage cells on the east section. Soil which contained contaminants with high contact or migration potentials were placed in drums. All material was placed in the west section staging area (Figure 4) according to analytical results.

1.5.4 Staging Contaminated Wood and Cylinders

Collection of heavy metal and PCB contaminated wood from both sections continued. Wood was piled in the west section and covered with visqueen. Throughout the removal, crews continued to watch for unidentified cylinders. Ten cylinders, ranging in height from approximately 12 inches to 5 feet, were located and staged in the west section. They were then added to the overall site inventory.

1.6 Cost Summary

The ERCS contractor, MAECORP, Inc., performed the on-site activities. Site activities were initiated on June 9, 1987, and completed on October 31, 1988. A summary of the ERCS contractor expenditures is presented in Table 2.

In addition to ERCS expenses, funds were also expended by the U.S. EPA and TAT. A combined ERCS, U.S. EPA and TAT cost summary is provided in Table 3.

1.7 Community Relations

Throughout the removal action the U.S. EPA maintained an open community relations policy to inform the public of the clean-up actions at the site. Local newspaper articles were written about the site during the clean-up activities. Reports on the progression of site activities were made available to the

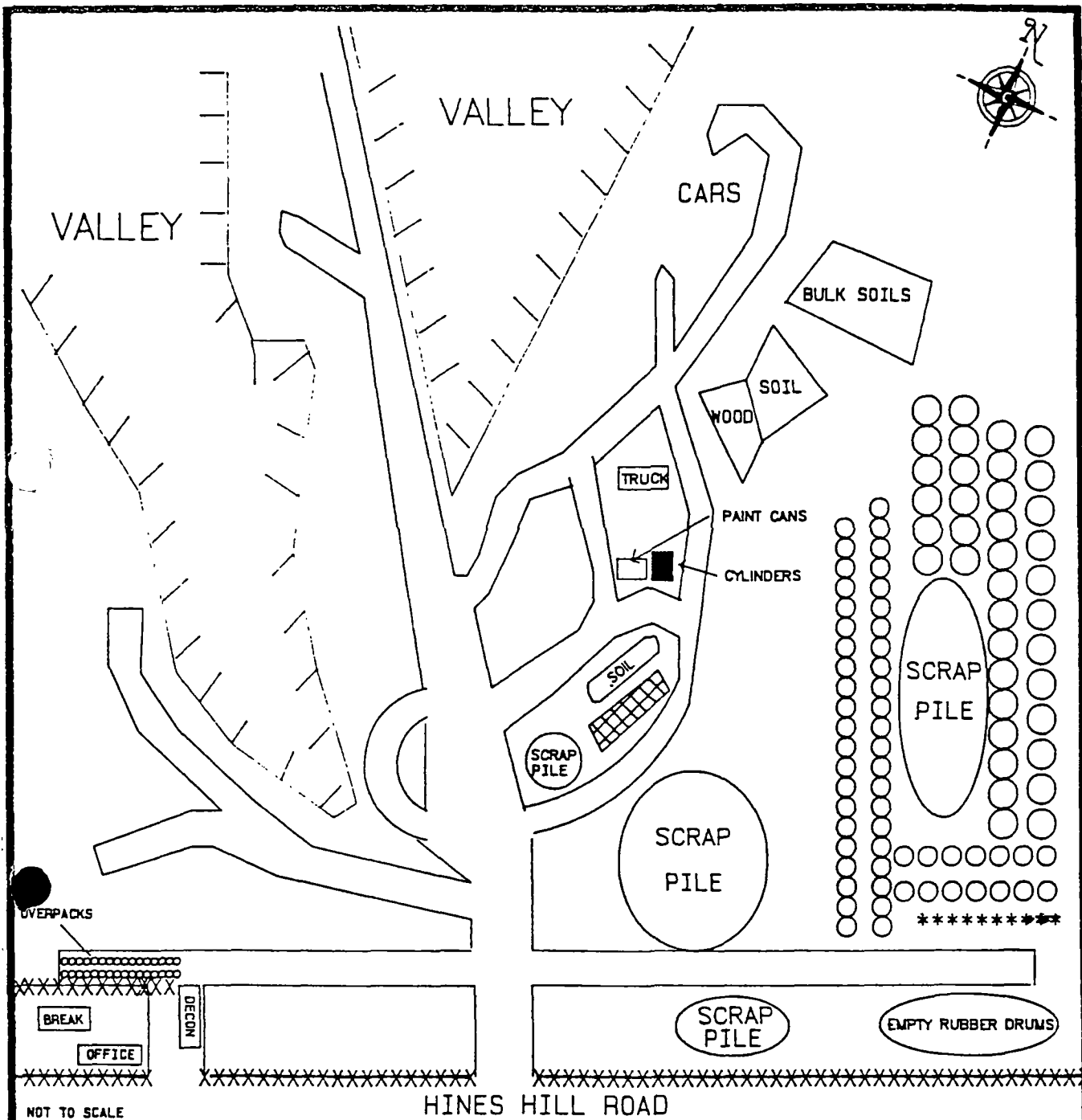


FIGURE 4
WEST SECTION STAGING AREA
KREJCI DUMP SITE
BOSTON TOWNSHIP, OHIO

LEGEND

XXXXX SITE FENCE

***** FULL RUBBER DRUMS

○ 55 GAL. DRUMS



85 GAL. DRUMS



PALLETS



TABLE 2
EXPENDITURES BY SERVICE CATEGORY*
KREJCI DUMP, BOSTON TOWNSHIP, OHIO

<u>SERVICE</u>	<u>AMOUNT</u>
Labor	\$ 562,313.17
Travel & Subsistence	120,764.07
Equipment	170,755.77
Materials	287,422.73
Subcontractor	224,457.66
Transportation	5,007.20
Disposal	0.00
Analytical	26,181.25
<hr/> TOTAL	<hr/> \$1,396,901.85

*Based on Invoice #19 approved by OSC Edward C. Burk, Jr., on 11-23-88. The invoice covers all activities through October 31, 1988.

Any indication in this OSC Report of specific cost incurred at the site is only an approximation, and is subject to audit and final definitization. The OSC Report is not a final reconciliation of the cost associated with a particular site.

TABLE 3
SUMMARY OF TOTAL CLEAN-UP COST*

KREJCI DUMP
BOSTON TOWNSHIP, OHIO

<u>ORGANIZATION</u>	<u>AMOUNT</u>
ERCS Cleanup Contractor	\$1,396.901.85
U.S. EPA	
Direct Cost	66,739.54
Indirect Cost	100,940.50
Technical Assistance Team	165,513.28
Total Project Cost	<u>\$1,730.059.17</u>

*The U.S. EPA cost listed above are from the computerized Incident Obligation Log dated 10-31-88. The TAT cost are provided by TAT. The ERCS cost is from Invoice #19 signed by the OSC on 11-23-88.

Any indication in this OSC Report of specific cost incurred at the site is only an approximation, and is subject to audit and final definitization. The OSC Report is not a final reconciliation of the cost associated with a particular site.

community and media upon request. However, interest in site activity was consistently low.

2.0 EFFECTIVENESS OF REMOVAL ACTION

2.1 Responsible Parties

On request of the National Park Service (the present owner), the U.S. EPA conducted a site assessment on October 23, 1986. During this site visit, conditions were observed that warranted an immediate action. Therefore, the decision was made that the U.S. EPA exercise the authority under Section 104 of CERCLA as amended by SARA. The U.S. EPA received communication from the Department of Interior (DOI), National Park Service, recommending that U.S. EPA initiate a site stabilization at the Krejci site. The U.S. DOI indicated that reimbursement of funds would be agreed upon in future discussions.

At that time, all other identifiable Potentially Responsible Parties (PRP's) were notified, but opted not to undertake the needed response actions. Because this action is on-going, information gathered through the investigations continues to identify PRP's. This information may be compiled by the NPS to conduct appropriate recovery of funds.

2.2 State and Local Officials

As the site is on Federal land, no local officials have been directly involved with the exception of Boston Township. Boston Township officials waived Hines Hill Road's load limit, allowing site access for the contractor's heavy equipment.

The State of Ohio was not heavily involved in the site, although the OEPA did request updates on site progress. The Ohio Department of Transportation supplied aerial photographs of the area from previous years. Arrangements for security, jurisdiction and contingency planning were made with the Peninsula Police.

2.3 Federal Actions

The U.S. EPA was the primary federal agency involved with the Krejci Dump site. The Agency for Toxic Substance Disease Registry (ATSDR) and National Institute for Occupational Safety and Health (NIOSH) provided technical support.

On October 31, 1988, the DOI, NPS, assumed the operation of the Krejci Dump Site removal action, pursuant to an Interagency Agreement (IAG) between the NPS and U.S. EPA, Region V. Under the IAG, the NPS continued to utilize the ERCS contract. This allowed consistent contractor performance and facilitated the removal action.

A Memorandum of Understanding (MOU) between the two agencies addressed funding or reimbursement of U.S. EPA funds by the DOI,

NPS. Provisions in both the MOU and IAG provided for reimbursement of expended funds to the U.S. EPA and funds for the continuation of the removal action.

The NPS has also made arrangements with the Bureau of Reclamation to assist in project oversight and to conduct an Engineering Evaluation and Cost Analysis (EE/CA) or like study. The EE/CA will provide long term remedial actions that are needed at the Krejci site.

2.4 Contractor Effectiveness

In general, the ERCS contractor, MAECORP, was effective on site. Some minor problems did arise due to improper protocol for analytical procedures. These QA/QC problems were quickly resolved through better laboratory management on site, or utilization of off-site laboratory facilities when needed.

3.0 PROBLEMS ENCOUNTERED

3.1 Analytical and Sampling

Occasional problems with analyses and sampling protocols caused delays and increased the time required to complete this portion of the removal action. It was necessary on one occasion to have analyses repeated by an outside lab when MAECORP's on-site lab failed to follow protocols.

3.2 Debris on Site

Scrap metal and glass, which littered the site, posed a hazard to rubber-tired equipment and a continual need to replace punctured tires served to significantly slow work. The majority of the rubber tire machinery had to be equipped with foam-filled tires to eliminate flats. This did add slightly to the removal time frame.

3.3 Additional Materials

As the cleanup activities progressed, additional materials (e.g. partially hidden containers and items overlooked earlier due to crowded condition of the site) were discovered. These additional materials increased the estimated time and cost required to complete this portion of the removal action.

4.0 OSC RECOMMENDATIONS

Analytical procedures, such as compatibility analysis, are appropriate for utilization of an on-site laboratory. However, if project needs include analytical services, such as pesticide/herbicide or disposal characterization analysis, it is recommended that an off-site, independent analytical laboratory be utilized. This should provide needed QA/QC results in a timely, cost effective manner.